



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

EDITORIALS.

THE United States Geological Survey is to be congratulated upon the appearance of the first atlas sheets of the geological map of the United States which, although still considered as preliminary to the regular edition, may be taken as essentially finished, and as embodying the chief features which will characterize the completed work. Each atlas consists of one portion of the whole map printed in four ways: one presenting the topography by itself; one, the areal geology; another, the geological structure by means of cross sections, and a fourth, the features of economic importance. Accompanying these are sheets of text, one of which explains certain elementary concepts of the science and defines the sense in which some of the more common terms are to be employed throughout this series of publications. The text describing the special area surveyed is admirably prepared to set forth in a concise manner the leading features of the geology and of the economic resources. It is prefaced in some cases by a general sketch of the region immediately surrounding the area published, which aids materially the comprehension of the more local geology. In one instance, however, the sketch embraces nearly the whole eastern portion of the United States, which seems unnecessary since, we assume, it is not the intention of the Survey to do away with the publication of its monographs and bulletins, where the full results of the several investigations should appear. Otherwise, the text accompanying the atlas sheets would be insufficient.

The sheets finished are from widely separated parts of the country: the Hawley sheet in Massachusetts, the geology of which is by Professor B. K. Emerson; the Kingston sheet in Tennessee, the geology by Mr. C. Willard Hayes, assisted by

Mr. M. R. Campbell; the Lassen Peak sheet and Sacramento sheet in California, the geology of the former by Mr. J. S. Diller, that of the latter by Mr. W. Lindgren. The character of the geology is equally diverse, embracing highly metamorphosed sediments in the first case, slightly modified strata in the second, and in the last two, metamorphosed igneous and sedimentary rocks associated with volcanic lavas. We notice with satisfaction the prominence given to economic features as well as the clear statement of facts regarding the dates at which the work was prosecuted, and the investigators who are to be credited with the work, two essential elements in forming a judgment as to the character of the results.

While the atlas sheets are alike in size they differ in scale from 1-250,000 to 1-62,500. The relative areas, however, are shown upon an index map on the cover of the atlas. These differences of scale are desirable because of the variable importance of the different parts of the country, and the variability in the character of the geology, which may be best represented upon maps of different scales. Such flexibility is a distinct advantage. The success of the effort to introduce greater elasticity into the method of coloring geological formations will be variously estimated. It is not possible to form a fair opinion of the merits of the system from the few examples of it furnished by the four atlas sheets already finished. But it would seem that the prominence accorded to pattern in the system, by making it a basis for the distinction of the main subdivisions of rocks: sedimentary, igneous and metamorphic, has been nullified by the lithographer, who has succeeded so admirably in reducing the lining to a mechanical minimum that the detection and recognition of patterns is a test of eyesight. We appreciate the difficulties attending the application of any comprehensive scheme of colors to so large and diversified a series of atlas sheets as that which will constitute the map of the United States, and look upon the efforts so far made as having advanced the problem without completely solving it. In the meantime the results already obtained by the geologists of the Survey in many

parts of the country should be published without waiting longer for a perfect method of coloring to be devised. J. P. I.

* * *

Do oscillations of the crust progress by waves? Or are they limited to non-progressive vertical elevations and depressions, or to oblique thrusts and resiliences? Or are there both stationary and progressive oscillations?

The subject does not seem to have received much definite investigation, although it finds incidental expression here and there in geological literature. It is clear, however, that a determination of the stationary or progressive character of crust oscillations must have an important bearing upon the various hypotheses that concern the relations of the earth's crust to its interior. It is obvious that preliminary to a study of these problems there must be dismissed from consideration those merely apparent oscillations of the crust that are in reality but variations of the sea level. It seems quite certain, however, that when these are eliminated there remain a large class of true crustal movements. The elucidation of these is extremely difficult and would be greatly aided if it were known whether they are local or migratory, and, if migratory, whether there are any general laws governing the direction of their movements, their rate of progress, etc. If migratory, do these undulations radiate from a point of origin in all directions, like the wave circles induced upon a liquid surface, or do they, like tidal waves, creep forward in a single direction?

If we combine by free hypothesis the elevations and depressions of the Pacific coast during the Pliocene and Pleistocene times with those of the Mississippi basin and of the Atlantic coast, it is not difficult to construct a procession of elevations and depressions creeping successively across the continent. Is such a synthesis supported by any close definite data indicating progressive undulation, or is it merely an artificial combination of selected data thrown into order arbitrarily at the suggestion of an hypothesis? This illustrates a class of questions whose solution presumably leads back to crustal and sub-crustal agencies.

Another class presumably involve superficial loading and unloading, as, for example, the accumulation and dissipation of continental glaciers. These are less radical in nature and less general in applicability, but perhaps offer greater hopes of early solution. There are few problems in geology more difficult of satisfactory elucidation, even by hypothesis, than the moderate but widespread oscillations of the earth's crust. The problem of mountain building, though more obtrusive, seems really less difficult than that of plateau formation, and that of plateau formation, in turn, less unpromising than that of the common widespread crustal oscillations.

The writer has become interested in these questions in connection with some studies of the earth's crust and interior, and would welcome contributions to the subject either for publication or for personal information.

T. C. C.